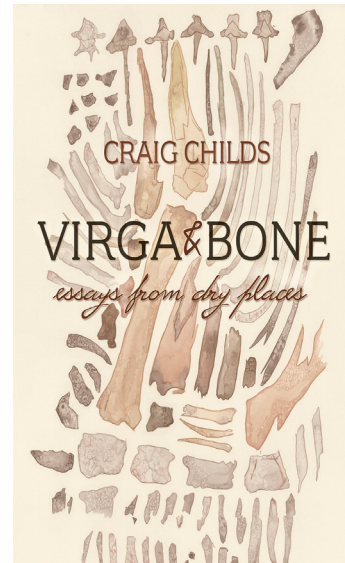


STUDENT ACTIVITY

Water, Erosion, & Geological Features

SUPPLIES

- Baking tray or other container
- Sand or dirt
- Rocks (various sizes)
- Small cups or bowls
- Spray bottle (optional)
- Water
- Ice
- Pencil
- Data Worksheet



VOCABULARY

- **Erosion** - the process by which soil, rock, and land are worn away, often caused by wind and water
- **Mesa** - an isolated, flat-topped hill with steep sides
- **Arroyo** - a steep, dried river-bed
- **Butte** - an isolated hill with steep sides and a flat top, narrower than a mesa
- **Dune** - a mound or ridge of loose sand formed by the wind
- **Playa** - an area of flat, dried-up land or dried lake bed

OBJECTIVES

- Students will have a greater understanding of how erosion shapes deserts
- Students compare and contrast erosion agents
- Students will practice observing and recording data
- Students will enjoy asking questions and experimenting to find answers

INTRODUCTION

1. Explain that erosion is the process by which soil, rock and land are worn away. Erosion is commonly caused by wind and water.
2. Start by filling the bottom of the tray or container with alternating layers of rocks with sand or dirt. Explain that this is going to be our desert.
3. In the real world, water flows down to sea level, and mountains create a natural high point. To mimic the flow of water in the real world, prop one end of the tray up 1-2" using extra rocks or household objects.

ACTIVITY

1. Practice using water to erode the "desert" layers by pouring it in a small trickle at one end of the tray. What happened to the sand or dirt? What about the rocks? Write down your observations, or draw pictures.
2. Even the desert back out again, then try changing variables one at a time. Ideas include:
 - a. What happens if you use a little bit of water versus a lot of water?
 - b. What happens if you pour the water all at once versus a little bit at a time?
 - c. What happens if you set an ice cube at the top and let it slide down the tray?
 - d. What happens if you tilt the tray really far vs. only a little bit?
 - e. What happens if you add salt to the water vs. using tap water?
3. Try making various desert features! You may need to use wind (by blowing or using a fan) or ice to create some of them. Be sure to write down or draw your observations! Ideas could include:
 - a. **Mesas**
 - b. **Arroyos** (dry river beds)
 - c. **Buttes**
 - d. **Dunes**
 - e. **Playas** (dried lake beds)
 - f. **Balanced rocks**

CONCLUSION

1. Compare the observations you've written or drawn with pictures of the desert. What things are the same? What things are different?
2. What other things might affect desert landscapes that you can't recreate in your house? (Ideas might include flash floods, desert vegetation, chemical reactions, etc.)
3. What other questions or ideas do you have about deserts or erosion?